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State of Nevada  
Department of Health and  
Human Services

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Adverse Childhood Experiences (ACEs) and Maternal  
Child and Adolescent Health Data and Partners

Division of Public and Behavioral Health  
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4/23/2022

*Helping people. It's who we are and what we do.*



# Agenda

1. Brief Overview of Maternal, Child, and Adolescent Health (MCAH) Section
2. Pregnancy Risk Assessment Monitoring System (PRAMS) and ACEs
3. Youth Risk Behavioral Survey (YRBS) and Behavioral Risk Factor Surveillance System (BRFSS) Data
4. Urban Lotus Project
5. Questions

# Maternal, Child and Adolescent Health Section

Title V Maternal Child Health (MCH) Program

Pregnancy Risk Assessment Monitoring System (PRAMS)

Teen Pregnancy Prevention

- Personal Responsibility Education Program (PREP)
- Sexual Risk Avoidance Education (SRAE)

Early Hearing Detection and Intervention (EHDI)

Nevada Maternal Infant and Early Childhood Home Visiting (MIECHV) Program

Rape Prevention and Education (RPE) Program

Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM)

Account for Family Planning (AFP)

Alliance for Innovation on Maternal Health (AIM)





# Title V MCH Program

Maternal and  
Infant Program  
(MIP)

Children and  
Youth with Special  
Health Care  
Needs (CYSHCN)

Adolescent Health  
and Wellness  
Program (AHWP)

Rape Prevention  
and Education  
(RPE) Program

MCH  
Epidemiology

State Systems  
Development  
Initiative (SSDI)



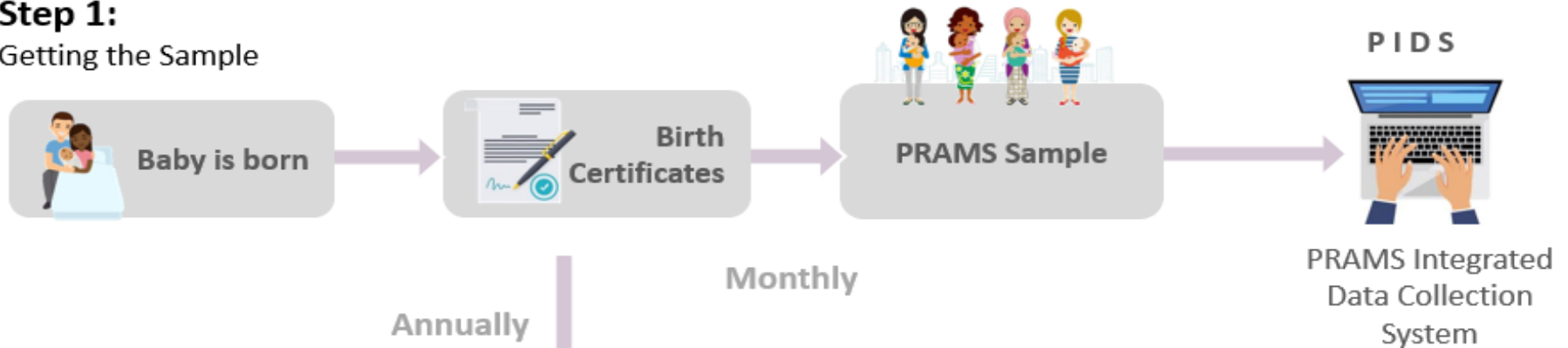
# Nevada Pregnancy Risk Assessment Monitoring System (PRAMS)

- Nevada PRAMS is a joint pregnancy surveillance study between the Nevada Division of Public and Behavioral Health (DPBH) and the Centers for Disease Control and Prevention (CDC)
- Nevada PRAMS began collecting data in September 2017, and has received weighted data from CDC for 7 months of 2017, 2018, 2019, and 2020 births
- Nevada PRAMS applied for and received funding for another 5-year cycle that began May 2021

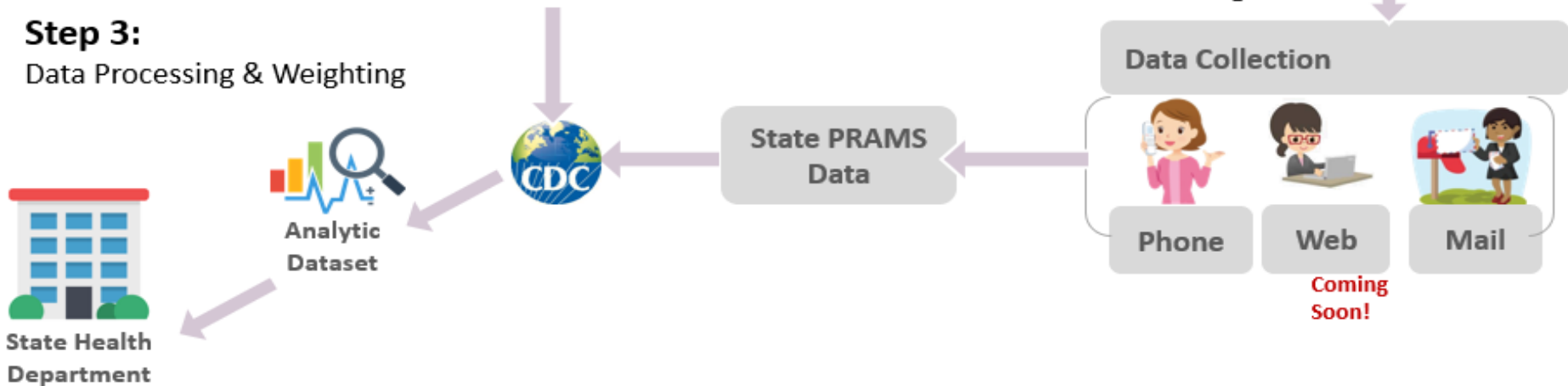


# Nevada PRAMS

## Step 1: Getting the Sample



## Step 3: Data Processing & Weighting





# Nevada PRAMS

- As part of CDC grant deliverable requirements, Nevada PRAMS submits two Data to Action reports annually
- 2017 and 2018 Nevada PRAMS data were utilized to explore if cumulative ACEs exposure is associated with marijuana use during pregnancy





# Nevada PRAMS

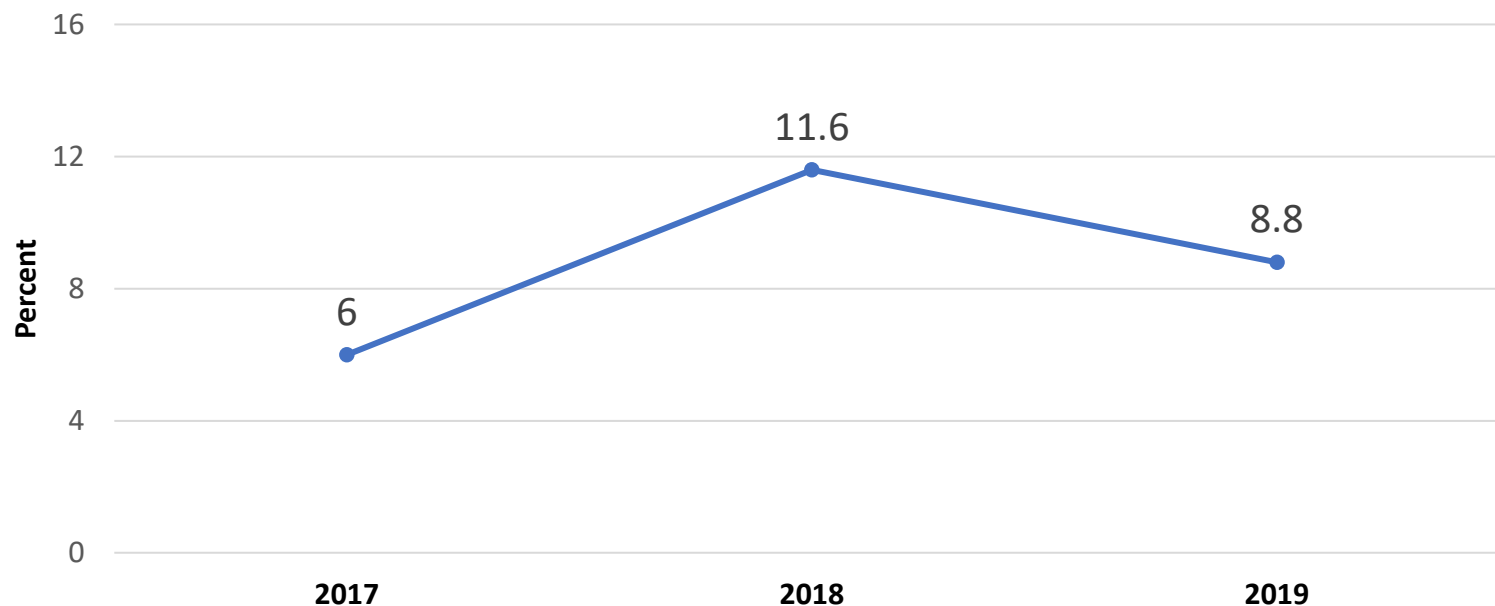
- Previous research has shown marijuana is the most used substance during pregnancy, and this use is associated with preterm labor, low birth weight, and stillbirth<sup>1-3</sup>
- Self-reported PRAMS marijuana use during pregnancy in Nevada has been increasing. Understanding factors that influence use of marijuana during pregnancy is important for prevention efforts.





# Nevada PRAMS

## NV PRAMS Marijuana or Hash Use During Pregnancy



**Source: 2017-2019 Nevada PRAMS Survey**

2017 Nevada PRAMS data had a response rate of 40.6% and 2018 had a response rate of 39.4%, which are both under the CDC required response rate threshold of 55% to publish data. 2019 PRAMS data had a response rate of 42% which is under the CDC required response rate threshold of 50% to publish data. 2017 consists of seven months of data collection. Interpret data with caution due to the response rate.





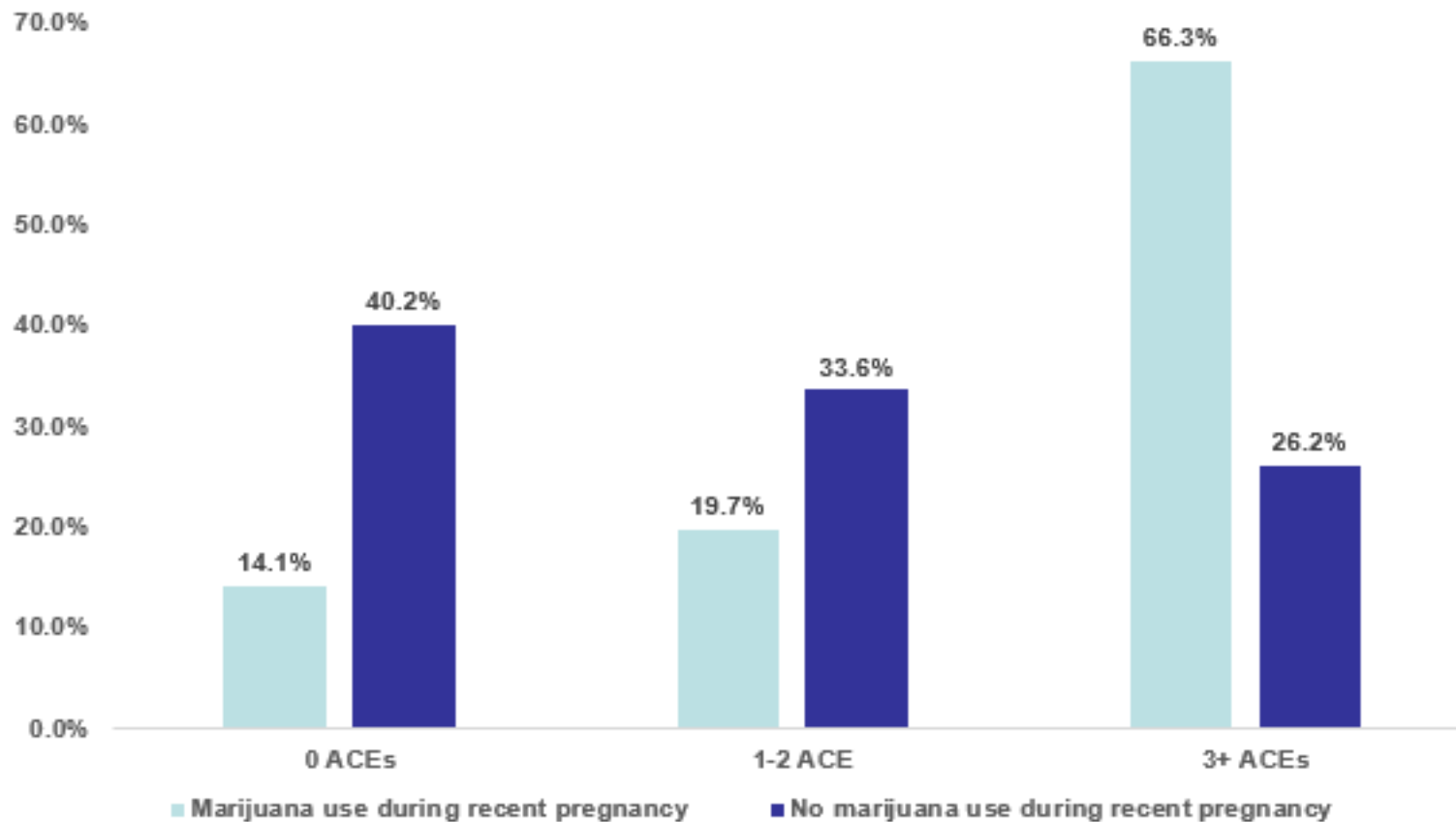
# Nevada PRAMS

- Using 2017 and 2018 Nevada PRAMS data, Shawn Thomas, MPH, University of Nevada, Reno (UNR), performed weighted logistic regression analyses that were used to assess the association between Adverse Childhood Experiences (ACEs) and marijuana use during pregnancy, adjusting for the effects of demographic characteristics such as age, race/ethnicity, education, marital status, and income.
- P-value cut-off of 0.05 for significance.
- 2017 Nevada PRAMS data had a response rate of 40.6% and 2018 had a response rate of 39.4%, which are both under the CDC required response rate threshold of 55% to publish data. 2017 consists of seven months of data collection. Interpret data with caution due to the response rate.



# Nevada PRAMS

## NV PRAMS ACEs by Marijuana Use During Most Recent Pregnancy, 2017-2018





# Nevada PRAMS

## Weighted Logistic Regression Results

ACEs	Adjusted Odds Ratio	95% Confidence Interval
0 (ref)	1.00	-
1	1.57	0.46, 5.33
2	3.15	0.89, 11.13
3+	9.19	3.15, 26.78



# Nevada PRAMS

- These findings were presented by Dr. Wei Yang from UNR at the Nevada Cannabis and Vaping Summit in January 2021 and utilized in developing a statewide Cannabis and Vaping Action Plan
  - The Action Plan calls out the continued need for PRAMS surveillance, as well as the necessity of specific messaging to reach pregnant individuals about the impacts of using substances while pregnant. A focus on ensuring messaging reaches those with high ACEs scores will be vital.
  - The plan considers implementing universal questionnaire-based screening (Screening, Brief Intervention, and Referral to Treatment – SBIRT) in a non-stigmatizing manner to identify substance use in pregnant and non-pregnant patients of reproductive age.

# Nevada PRAMS

- Overall, the PRAMS findings support substance use prevention programs providing wraparound support services accessible to people with high ACEs scores.
  - Wraparound support services often incorporate non-judgmental, relationship-based, trauma-informed, and harm reduction approaches that can be particularly effective for birthing persons with high ACE scores.
- Nevada PRAMS will continue to collect data on ACEs and substance use and disseminate findings to partners. Nevada PRAMS will also continue to utilize findings internally to guide programmatic and policy decisions.
- A link to the full data to action piece can be found here:  
<https://dpbh.nv.gov/Programs/TitleV/MCAH-Data-and-Publications/>

# YRBS and BRFSS- Utilizing Data

- Title V MCH funds BRFSS data collection efforts. Data from BRFSS and YRBS indicate the need for prevention and intervention strategies targeting ACEs to reduce mental health consequences into adulthood
- Current statewide efforts address ACEs by building resiliency, using trauma-informed approaches, and providing social and emotional support services to children and their families
- MCAH staff attended conferences and webinars to understand how trauma affects the developing adolescent brain in healthy decision-making and to learn what it means to be trauma-informed with adolescent patients.
  - The AHW, SRAE, and PREP programs shared resources obtained with youth-serving agencies and youth advisory councils to enhance their understanding of trauma-informed principles and better engage with youth impacted by ACEs.



# Urban Lotus Project

- Title V MCH funds Urban Lotus Project to provide physical activity to underserved youth and those experiencing special health care needs
- Urban Lotus Project offers Trauma-Informed Yoga for Youth to benefit adolescents impacted by a high lifetime prevalence of ACEs
  - This helps increase physical activity, provide resilience, support mindfulness, combat obesity and chronic disease, enhance wellness, and help mitigate other harmful public health outcomes





# Conclusions

- Overall, data collection on ACEs within the MCAH Section is focused on PRAMS, BRFSS, and YRBS surveys
- PRAMS ACEs analyses can be updated to include 2019 and 2020 data, as well as expanding beyond marijuana use
- Impacts of ACEs on utilization of services and other public health outcomes should be factored into program planning and policy development for MCH populations



# References

1. McCabe JE, Arndt S. Demographic and substance abuse trends among pregnant and non-pregnant women: eleven years of treatment admission data. *Maternal Child Health J.* 2012 Nov;16(8):1696-702. doi: 10.1007/s10995-011-0872-z. PMID: 21842247.
2. Verner MA, Andersen ME, Clewell HJ 3rd, Longnecker MP. Prenatal PCB-153 Exposure and Decreased Birth Weight: Verner et al. *Respon. Environ Health Perspect.* 2014 Apr;122(4):A89-90. doi: 10.1289/ehp.1307796R. PMID: 24691074; PMCID: PMC3984225.
3. Hayatbakhsh, M., Flenady, V., Gibbons, K. et al. Birth outcomes associated with cannabis use before and during pregnancy. *Pediatr Res* 71, 215–219 (2012). <https://doi.org/10.1038/pr.2011.25>



# Questions?





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# Acronyms

- Adverse Childhood Experiences (ACEs)
- Maternal, Child, and Adolescent Health (MCAH)
- Pregnancy Risk Assessment Monitoring System (PRAMS)
- Youth Risk Behavioral Survey (YRBS)
- Behavioral Risk Factor Surveillance System (BRFSS)
- Division of Public and Behavioral Health (DPBH)
- Centers for Disease Control and Prevention (CDC)
- Children and Youth with Special Health Care Needs (CYSHCN)
- Adolescent Health and Wellness Program (AHWP)
- Sexual Risk Avoidance Education (SRAE)
- Personal Responsibility Education Program (PREP)